

WHAT IS CLAIMED IS:

1. A cellular communications system for use by a user to communicate via a cellular communications network, the system comprising:
 - (a) a cellular communications unit for two-way communication with the cellular communications network;
 - (b) a headpiece including at least one earphone and a microphone, and
 - (c) a bi-directional optical communications link associated with said cellular communications unit and said headpiece and configured to provide a communications link between said cellular communications unit and said headpiece such that said earphone produces an audio output corresponding to data received by the cellular communications unit and said cellular communications unit transmits data corresponding to an audio input received by said microphone.
2. The cellular communications system of claim 1, wherein said bi-directional optical communications link is the sole communications link between said cellular communications unit and said headpiece.
3. The cellular communications system of claim 1, wherein said bi-directional optical communications link includes at least one optic fiber deployed between said cellular communications unit and said headpiece.

4. The cellular communications system of claim 3, wherein said at least one optic fiber is implemented as two optic fibers.

5. The cellular communications system of claim 3, wherein said at least one optic fiber is implemented as a sole optic fiber.

6. The cellular communications system of claim 3, wherein said at least one optic fiber is implemented as at least one plastic optic fiber.

7. The cellular communications system of claim 1, wherein said headpiece further includes at least one battery.

8. The cellular communications system of claim 1, wherein said bi-directional optical communications link is configured to transfer power from said cellular communications unit to said headpiece for powering at least one electronic component within said headpiece.

9. A headset for use with a cellular communications unit for bi-directional communication with a cellular communications network, the cellular communications unit having an electrical output for providing an audio-out signal corresponding to data received from the cellular communications network and an electrical input for receiving an audio-in signal for transmission via the cellular communications network, the headset comprising.

- (a) an electro-optic interface unit for connection to the cellular communications unit, said interface unit including:
 - (i) an interface-unit optical modulator configured for receiving said audio-out signal from the cellular communications unit and generating a corresponding first optical signal, and
 - (ii) an interface-unit optical receiver responsive to a received optical signal to generate a corresponding electrical audio-in signal to be provided to the electrical input of the cellular communications unit;
- (b) a headpiece including:
 - (i) a headpiece optical receiver responsive to a received optical signal to generate a corresponding electrical driver signal,
 - (ii) at least one earphone electrically connected so as to be driven by said driver signal to generate an audible sound,
 - (iii) a microphone for generating an electrical microphone signal corresponding to sensed audible sounds, and
 - (iv) a headpiece optical modulator responsive to said microphone signal to generate a corresponding second optical signal; and
- (c) an optic fiber connection including at least one optic fiber, said optic fiber connection being associated with said electro-optic

interface unit and said headpiece and being configured to form an optical link between said interface-unit optical modulator and said headpiece optical receiver, and between said headpiece optical modulator and said interface-unit optical receiver.

10. The headset of claim 9, wherein said optic fiber connection employs a single optic fiber to provide said optical link both between said interface-unit optical modulator and said headpiece optical receiver, and between said headpiece optical modulator and said interface-unit optical receiver.

11. The headset of claim 9, wherein said optic fiber connection employs a first optic fiber to provide said optical link between said interface-unit optical modulator and said headpiece optical receiver, and a second optic fiber to provide said optical link between said headpiece optical modulator and said interface-unit optical receiver.

12. The headset of claim 9, wherein said at least one optic fiber is implemented as at least one plastic optic fiber.

13. The headset of claim 9, wherein said headpiece further includes at least one battery for powering said headpiece optical receiver and said headpiece optical modulator.

14. The headset of claim 9, further comprising an optical power transmission system configured to transfer power via said optical fiber connection to said headpiece for powering said headpiece optical receiver and said headpiece optical modulator.

15. The headset of claim 9, wherein said headset is substantially electrically insulated from said interface unit.